

Notice No.2

Rules and Regulations for the Construction and Classification of Ships for the Carriage of Liquefied Gases in Bulk, July 2022

The status of this Rule set is amended as shown and is now to be read in conjunction with this and prior Notices. Any corrigenda included in the Notice are effective immediately.

Please note that corrigenda amends to paragraphs, Tables and Figures are not shown in their entirety.

Issue date: June 2023

Amendments to	Adoption Date	Applicable Date
LR I	1 July 2023	1 July 2023
Chapter 3, LR 3.15, LR 3.16 & LR 3.22	1 July 2023	1 July 2023
Chapter 5	1 July 2023	1 July 2023
Chapter 16	1 July 2023	1 July 2023



LR I

General Regulations

Section 5

Applicability of Classification Rules and Disclosure of Information

■ **Section 5** **Applicability of Classification Rules and Disclosure of Information**

5.1 LR has the power to adopt, and publish as deemed necessary, Rules relating to classification and has (in relation thereto) provided the following:

- a. Except in the case of a special directive by the Board, no new Regulation or alteration to any existing Regulation relating to classification or to class notations is to be applied to existing ships.
- b. Except in the case of a special directive by the Board, or where changes necessitated by mandatory implementation of International Conventions, Codes or Unified Requirements adopted by the International Association of Classification Societies are concerned, no new Rule or alteration in any existing Rule is to be applied compulsorily after the date on which the contract between the ship builder and shipowner for construction of the ship has been signed, nor within six months of its adoption. Notification of a new Rule or alteration may be issued on, or shortly after, the adoption date. The notice will include reference to the new Rule or marked up rule text showing alterations and any relevant IACS or IMO requirements. The date of 'contract for construction' of a ship is the date on which the contract to build the ship is signed between the prospective shipowner and the ship builder. This date and the construction number (i.e. hull numbers) of all the vessels included in the contract are to be declared by the party applying for the assignment of class to a newbuilding. *(part only shown)*

Chapter 3

Ship Arrangements

LR 3.15 Deck plating

(Part only shown)

Table LR 3.1 Deck plating and longitudinals

NOTES

3. For the upper deck F_D may be factored to the actual stress at location.

LR 3.16 Shell plating

(Part only shown)

Table LR 3.2 Bottom shell, bilge and side shell plating and longitudinals

NOTES

6. For the expressions contained in (1)(a) and (2)(a), F_D and F_B may be factored to the actual stress at location.

LR 3.22 Longitudinal bulkheads and inner hull

(Part only shown)

LR 3.22-03 Where the longitudinal bulkhead provides direct support for the containment system, a structural analysis of the hull structure will be required using direct calculation procedures which are to be agreed with LR at as early a stage as possible.

When determining scantlings for the inner hull, the following requirements are to be complied with:

- (c) Connection of inner hull longitudinals to primary members:

In considering these connections, the requirements of Pt 3, Ch 10, 5.2 are to be applied as for ~~oil tankers~~ other ship types for which oil tanker requirements are not applicable, taking account of the dynamic pressure heads determined by 4.28.1.1 of these Rules.

Chapter 5

Process Pressure Vessels and Liquid, Vapour and Pressure Piping Systems

5.4 Design pressure

5.4.4 The design pressure of the outer pipe or duct of gas fuel systems shall not be less than the maximum working pressure of the inner gas pipe. Alternatively, for gas fuel piping systems with a working pressure greater than 1 MPa, the design pressure of the outer duct shall not be less than the maximum built-up pressure arising in the annular space considering the local instantaneous peak pressure in way of any rupture and the ventilation arrangements.

LR 5.4-01 The expression 'design pressure of the outer pipe or duct' in 5.4.4 is either of the following:

- (a) the maximum pressure that can act on the outer pipe or equipment enclosure after the inner pipe rupture as documented by suitable calculations taking into account the venting arrangements; or
- (b) for gas fuel systems with inner pipe working pressure greater than 1 MPa, the 'maximum built-up pressure arising in the annular space', after the inner pipe rupture, which is to be calculated in accordance with paragraph 9.8.2 of the *Rules and Regulations for the Classification of Ships using Gases or other Low-flashpoint Fuels*.

LR 5.4-02 The expression 'duct' in 5.4.4, LR 5.4-01, 5.13.2.4 and LR 5.13-08 includes the equipment enclosure required in 16.4.3.1 and 16.4.3.2 (e.g. GVU enclosure), as well as the structural pipe duct intended to contain any release of gas from inner pipes or equipment. The term 'structural pipe duct' means an outer duct forming part of a structure, such as a hull structure or superstructure or deckhouse, where permitted, other than a gas valve unit room.

Chapter 16

Use of Cargo as Fuel

16.4 Gas fuel supply

16.4.7 Piping and ducting construction

Gas fuel piping in machinery spaces shall comply with 5.1 to 5.9, as applicable. The piping shall, as far as practicable, have welded joints. Those parts of the gas fuel piping that are not enclosed in a ventilated pipe or duct according to 16.4.3, and are on the weather decks outside the cargo area, shall have full penetration butt-welded joints and shall be fully radiographed.

LR 16.4-02 The expression 'duct' includes the equipment enclosure required in 16.4.3.1 and 16.4.3.2 (e.g. GVU enclosure), as well as the structural pipe duct intended to contain any release of gas from inner pipes or equipment. The term 'structural pipe duct' means an outer duct forming part of a structure, such as a hull structure or superstructure or deckhouse, where permitted, other than a gas valve unit room.

LR 16.4-03 The gas valve unit rooms are to be:

- (a) gastight towards other enclosed spaces;
- (b) equipped with mechanical exhaust ventilation having a capacity of at least 30 air changes per hour and arranged to maintain a pressure less than the atmospheric pressure; and
- (c) able to withstand the maximum built-up pressure arising in the room in case of a gas pipe rupture, as documented by suitable calculations taking into account the ventilation arrangements.

LR 16.4-04 The expression 'other enclosed spaces' refers to spaces other than the engine room space in which a GVU room is located.

Existing paragraphs LR 16.4-02 to LR 16.4-06 have been renumbered LR 16.4-05 to LR 16.4-09.

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